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# Labour Force, Australia methodology

Reference period October 2022

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## Introduction

The monthly Labour Force Survey (LFS) provides information about the labour market activity of Australia's resident civilian population aged 15 years and over. The LFS is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory. The ABS has been conducting the Labour Force Survey since 1960, initially as a quarterly survey. In February 1978, the frequency of the survey was changed from quarterly to monthly.

The conceptual framework used in Australia's Labour Force Survey aligns closely with the standards and guidelines set out in Resolutions of International Conferences of Labour

Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling the estimates, are presented in [Labour Statistics: Concepts, Sources and Methods \(/statistics/detailed-methodology-information/concepts-sources-methods/labour-statistics-concepts-sources-and-methods/2021\)](#).

## Scope and coverage

The scope of the LFS is the civilian population aged 15 years and over, excluding:

- Members of the permanent defence forces
- Certain diplomatic personnel of overseas governments
- Overseas residents in Australia
- Members of non-Australian defence forces (and their dependants) stationed in Australia

Coverage rules are applied to ensure that each person is associated with only one dwelling, and has only one chance of selection. The coverage rules are necessarily a balance between theoretical and operational considerations. The chance of a person being counted at two separate dwellings is considered to be insignificant.

## Collection method

The LFS is based on a multi-stage area sample of:

- private dwellings;
- discrete Aboriginal and Torres Strait Islander communities; and
- non-private dwellings (i.e. hotels, motels, hospitals, retirement villages, etc.).

Households within selected dwellings are interviewed each month for eight months, with one-eighth of the sample being replaced each month. Information is obtained either by trained interviewers or through self-completion online. Generally, the first interview is completed face-to-face and subsequent interviews conducted by phone. All respondents in the sample are also offered the option of completing the survey online.

The interviews are generally conducted during the two weeks beginning on the Sunday between the 5th and 11th of each month. The information obtained relates to the week before the interview (i.e. the reference week). Occasionally, circumstances that present significant operational difficulties for survey collection can result in a change to the normal pattern for the start of interviewing.

Each year, to deal with the operational difficulties involved with collecting and processing

the Labour Force Survey around the Christmas and New Year holiday period, interviews for December start four weeks after November interviews start (i.e. between the 3rd and 9th December), and January interviews start five weeks after December interviews start. As a result, January interviewing may commence as early as the 7th or as late as the 13th, depending on the year.

The questionnaire used in the LFS for face-to-face or phone interviews is below. An online version of this questionnaire is also used for respondents self-completing the survey on the ABS website.

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### Labour Force Survey questionnaire

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Changes to the LFS questionnaire was implemented in July 2022. For details of the changes, please refer to History of changes in this page.

The retired [LFS questionnaire \(July 2014 – June 2022\)](#) ([/methodologies/labour-force-australia-methodology/jun-2022#data-download](#)) is accessible via the methodology page in the June 2022 release.

Previous versions of the LFS questionnaire can be found in [Questionnaires used in the Labour Force Survey](#) (

Other survey forms may be used in special circumstances. A paper self-completion form may be used where it is not possible for an interview to take place — for instance, where contact cannot be made with the occupants of selected dwellings or when a respondent refuses to be interviewed but will complete a form.

A customised form is also used for Aboriginal and Torres Strait Islander peoples living in sparsely settled areas and Aboriginal and Torres Strait Islander communities when interviewers encounter significant cultural and language difficulties, or when other operational difficulties occur such as the availability of suitably trained and skilled interviewers.

## Sample design

### Sample size

The sample size of the LFS is approximately 26,000 dwellings resulting in a sample of approximately 50,000 people.

The sample covers approximately 0.32% of the civilian population aged 15 years and over.

## Sample frame and selection

The ABS Address Register is used as the sampling frame for unit selection, and state sampling fractions for selection probabilities within each state and territory. The new sample based on the Address Register was phased in between July 2018 and February 2019, with each incoming rotation group selected from the Address Register.

Use of the Address Register as the sampling frame forms a three stage selection process where field officers do not have to visit base frame units to compile dwelling lists – enhancing the efficiency of data collection and effectiveness of sample selected.

The sample frame for the Labour Force Survey (LFS) is refreshed at regular intervals to ensure it accurately reflects the location of Australian residences as the population growth.

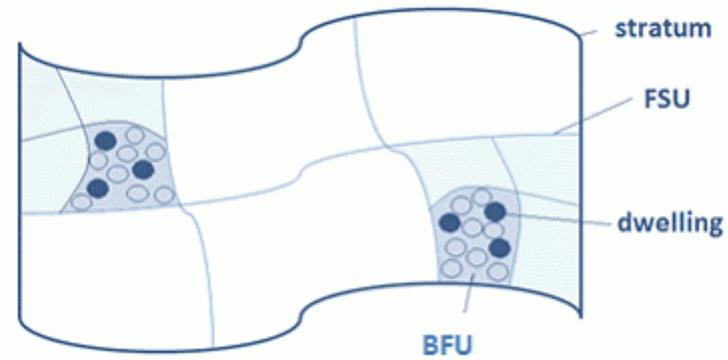
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## Use of the ABS Address Register

In response to the need for more efficient and effective household survey designs, the Address Register was established by the ABS in 2015 as a comprehensive list of all physical addresses in Australia. The Address Register Common Frame is a trusted and comprehensive data set of Australian address information. It contains current address details, coordinate reference (or “geocode”), and address use information for addresses in Australia.

The area-based sample selection that had been used previously by the LFS relied upon the identification of units through a multi-stage selection process. This process divided the strata (the states and territories by area type) into separate first-stage units (FSU's). These FSU's were then divided into separate base frame units (BFU's) comprising separate mesh blocks which contain an average of 30 to 60 dwellings. To identify the sample for inclusion in the survey, field officers would make an initial visit to the BFU's to compile a list of all dwellings (addresses). This list was then used to form clusters of dwellings within the BFU – these being the eventual dwellings selected in the sample.

This process of sample selection is illustrated below. The first stage of selection is the FSU within a stratum, the second is a Base Frame unit within an FSU, then third is the dwellings within a BFU.



In practical terms, use of the Address Register means:

- Samples are co-located in the same geographic area to a greater extent than previously, leading to greater efficiencies in the field;
- Growth strata are able to be identified based on information from state and territory governments as well as building approvals data, which differs slightly to the old method, where growth areas were identified ahead of dwellings being constructed and occupied. While the approach to identifying a growth area is slightly different, the Address Register samples will continue to ensure a representative sample of households within growth areas; and
- Sampling cluster sizes will be maintained with a greater number of clusters selected over time in order to represent population growth. This improves the efficiency of the selected samples. Previously, growth in the general population was realised as growth in the average cluster size over the 5 year design period.

## State sampling fractions

The process of identifying a sample unit involves the application of state sampling fractions (otherwise known as state skips). Sampling fractions are updated to reflect changes in populations over time.

The state sampling fraction method applies a predefined skip interval for each state which defines the probability of an address within each respective state being selected for the survey. A sampling fraction is applied to each state and territory. For example, the skip interval in New South Wales from 2018 is 445, which means that each unit in New South Wales has a probability of 1 in 445 (or 0.0022) of being selected from the address register for the survey (the sampling fraction).

The state skip interval also provides the initial weight that is applied to the sample before any adjustments are made for under or over coverage. By applying the state skip as an initial weight in New South Wales, for example, the interval of 445 indicates that prior to any

weighting adjustments being applied each survey respondent in New South Wales would be weighted to 445 people.

The sample fractions and target sample sizes for each state and territory are shown below.

State	Sampling fraction	Target sample size (fully responding dwellings)
New South Wales	1 in 445	6,029
Victoria	1 in 438	5,169
Queensland	1 in 416	4,306
South Australia	1 in 218	3,048
Western Australia	1 in 310	2,833
Tasmania	1 in 99	2,088
Northern Territory	1 in 52	1,323
Australian Capital Territory	1 in 169	865
Australia	1 in 339	25,660

## Sample rotation

The sample can be thought of as comprising eight sub-samples (or rotation groups), with each sub-sample remaining in the survey for eight months. A new rotation group is introduced each month to replace an outgoing rotation group. This replacement sample generally comes from the same geographic area as the outgoing one.

Sample rotation enables reliable measures of monthly change in labour force statistics to be compiled, as seven-eighths of the sample from any month is retained for the following month. At the same time, the sample rotation procedure ensures that no household is retained in the sample for more than eight months, and that the sample reflects changes over time in the household population (such as construction of new households).

## Sample design changes in response to COVID-19

In response to COVID-19 and the suspension of face-to-face interviewing, the ABS increased the size of sample for the incoming rotation groups from June to December 2020 to ensure response levels were around the same as pre-COVID-19 rotation groups. This ensured a comparable number of fully responding households to the pre-COVID period.

In response to the data collection challenges associated with the COVID-19 Delta variant, the ABS increased the size of the sample for the incoming rotation group in New South Wales in

September 2021, and in New South Wales and Victoria from October 2021 to January 2022. As with earlier in the pandemic, this has ensured that survey response has remained at a similar level to the pre-COVID period.

The sample size of the incoming rotation groups since February 2022 were similar to the rotation groups of the pre-COVID period.

It should be noted that the last rotation group with increased sample, introduced in January 2022, was the outgoing rotation group in August 2022. It will be replaced with a rotation group with a similar sample size to the rotation groups of the pre-COVID period in September 2022. As a result, the sample size of all rotation groups will be similar to the rotation groups of the pre-COVID period since September 2022.

Between April and September 2020, and in September and October 2021, additional weighting treatments were used to effectively account for a slightly higher level of non-response related to lockdowns and other restrictions. No such treatment has been required since October 2021.

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## **Response rates**

The LFS receives a high level of co-operation from individuals in selected dwellings. For the duration of the COVID-19 pandemic, due to the suspension of face to face interviews in late April 2020, the ABS had moved to a level target of response. The target response was 23,442 fully responding households. This level was achieved in October 2022.

## **Weighting and estimation**

### **Population benchmarks**

The LFS estimates are calculated so they add to independent estimates of the civilian population aged 15 years and over (population benchmarks) based on the most recently released estimates of final, revised and preliminary quarterly Estimated Resident Population (ERP). For information on the methodology used to produce the ERP, see [Australian Demographic Statistics \(<https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0).

Since the most recently released ERP estimates lag the labour force estimates by nine months, the labour force population benchmarks are created by projecting forward three quarters past the most recently released quarterly ERP estimates. The projection is based on the historical pattern of each population component - births, deaths, interstate migration and net overseas migration (NOM). Estimates of NOM are supplemented with other data

sources to better reflect short-term population changes. These estimates draw on information provided by the Department of Home Affairs.

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## Revisions to population benchmarks and rebenchmarking of LFS

The revision status of quarterly ERP data changes over time, from preliminary, to revised, to final. These changes occur as natural increase, overseas migration, and interstate migration component data are revised to incorporate more up to date data. These revisions flow through to the population benchmarks used to rebenchmark the labour force estimates on a quarterly basis.

Every five years, the ERP series are revised to incorporate additional information available from the latest Census of Population and Housing. Labour Force Survey population benchmarks, and the estimates, are revised following this five-yearly revision in the ERP. The process of incorporating the revised population benchmarks is referred to as 'rebasing'. The rebasing process is subject to a revision going from, preliminary rebasing approximately a year after the Census, to final rebasing approximately 2 years after the Census.

Preliminary rebasing occurred in the November 2017 issue of [Labour Force, Australia](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/961A70FE9EC98712CA2582180013F5DA?opendocument) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/961A70FE9EC98712CA2582180013F5DA?opendocument>), at the same time revisions were made to historical Labour Force estimates from July 2011 to October 2017. The final rebasing occurred in November 2018 [Labour Force, Australia - Rebenchmarked Estimates, Oct 2018](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0.55.003) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0.55.003>) with the series from July 2011 to November 2018 rebenchmarked to align with final ERP benchmarks from the 2016 Census. For more information on revised ERP estimates, refer to the December 2016 issue of [Australian Demographic Statistics](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/432B4729A87614B1CA2581A70015892B?opendocument) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/432B4729A87614B1CA2581A70015892B?opendocument>).

Rebenchmarking is undertaken quarterly in respect of the February, May, August and November reference months. For more information, refer to the article Rebenchmarking of labour force series in the February 2015 issue of [Labour Force, Australia](https://www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/6202.0Main%20Features4Feb%202015?opendocument&tabname=Summary&prodno=6202.0&issue=Feb%202015&num=&view=) (<https://www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/6202.0Main%20Features4Feb%202015?opendocument&tabname=Summary&prodno=6202.0&issue=Feb%202015&num=&view=>).

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## Estimation method

The LFS uses a composite estimation method. Composite estimation combines the data collected in the previous six months with the current month's data to produce the current month's estimates. This takes advantage of the high correlation between overlapping samples across months in the survey. After composite estimation methods have been applied, the seven months of data are weighted to align with the current month population benchmarks. For details see [Information Paper: Forthcoming Changes to Labour Force Statistics, 2007](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/4C4FEEBCC72BCD8ACA257D020014933B?opendocument) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/4C4FEEBCC72BCD8ACA257D020014933B?opendocument>).

## Seasonal adjustment and trend estimation

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series.

Any original time series can be thought of as a combination of three broad and distinctly different types of behaviour, each representing the impact of certain types of real world events on the information being collected:

- systematic calendar related events;
- short-term irregular fluctuations; and
- long-term cyclical behaviour.

Seasonal adjustment is a statistical technique that attempts to measure and remove the effects of systematic calendar related patterns (i.e. which happen at the same time every year) including seasonal variation to reveal how a series changes from period to period, so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the short-term or irregular influences which may be present. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation, and therefore month-to-month movements of seasonally adjusted estimates may not be reliable indicators of trend behaviour.

Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates. The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the data, and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

For more information about time series analysis see [Time Series Analysis FAQ](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1346.0.55.002) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1346.0.55.002>).

## Impacts of COVID-19

ABS suspended the publication of Labour Force Trend estimates in April 2020, due to the large changes in the labour market during the COVID-19 period, particularly during the first two years of the pandemic (April 2020 to March 2022).

As suggested in [A Guide to Interpreting Time Series, \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1349.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1349.0) trend estimates are generally a better guide to the substantive movements in the series, and are considered the best indicator of the underlying behaviour in the labour market.

Given this, following extensive analysis of the time series, the ABS has now reinstated Labour Force Trend estimates and reverted back to using the concurrent seasonal adjustment method (rather than using forward factors).

The ABS has also included the trend during the COVID period in the spreadsheets from the [Labour Force, Australia, September 2022 \(/statistics/labour/employment-and-unemployment/labour-force-australia/sep-2022\)](#) release. However, given the large month-to-month changes during the first two years of the COVID-19 pandemic, resulting in multiple trend breaks, the ABS recommends caution when using trend estimates during this period.

The ABS will continue to investigate methods for the identification of trend breaks as part of the upcoming Annual Seasonal Reanalysis in 2023. As part of this process, there may be larger than usual revisions, particularly for the first two years of the pandemic.

With the temporary suspension of trend during the pandemic, seasonally adjusted estimates have been published in Labour Force, Australia for the Northern Territory and the Australian Capital Territory (tables 10a, 11a, 12a, 19a and 23a). Caution should continue to be exercised when using seasonally adjusted estimates for the two territories. The ABS expects to cease publishing these temporary tables with the December 2022 issue on 19 January 2023.

A list of all trend breaks between April 2020 and March 2022 can be found in 'Trend breaks by publication table, April 2020 to March 2022'.

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### Trend breaks by publication table, April 2020 to March 2022

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### Seasonal adjustment techniques

A multiplicative decomposition model is applied in the seasonal adjustment of Labour Force Time Series, where the original time series ( $O$ ) is considered as the product of the underlying trend ( $T$ ), a systematic calendar related or seasonal component ( $S$ ) and an irregular component ( $I$ ). This can be expressed as  $O = T \times S \times I$ . The contributions of each of these behaviours varies from series to series, as well as throughout time for a given series, depending on the nature of the interactions of real world events and the data of interest.

The Labour Force Survey uses the concurrent seasonal adjustment method to derive seasonal factors. Concurrent seasonal adjustment uses data up to the current month to estimate seasonal factors for the current and all previous months. This process can result in revisions each month to estimates for earlier periods. However, in most instances, the only noticeable revisions will be to the seasonally adjusted estimates for the previous month and one year prior to the current month. From the March 2015 issue of this publication, the effects of supplementary surveys are removed prior to the estimation of seasonal factors for key Labour Force series from February 1978 onwards. While this methodology has addressed short term volatility in the seasonally adjusted series arising from changes to the timing and content of the supplementary survey program, in general prior corrections and resulting changed seasonal patterns can be identified and measured to a more reliable degree of certainty after three successive observations (in this case after three years). For further details refer to the October and December 2014 issues of this publication.

The revision properties of the seasonally adjusted and trend estimates can be improved by the use of Autoregressive Integrated Moving Average (ARIMA) modelling. ARIMA modelling relies on the characteristics of the series being analysed to project future period data. The projected values are temporary, intermediate values that are only used internally to improve the estimation of the seasonal factors. The projected data do not affect the original estimates and are discarded at the end of the seasonal adjustment process. The Labour Force Survey uses an ARIMA model for the majority of the individual time series. The ARIMA model is assessed as part of the annual reanalysis. For further details, see the feature article in the October 2004 issue of [Australian Economic Indicators \(<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/3CE6868CC5904CA6CA2570B1002A6877?opendocument>\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/3CE6868CC5904CA6CA2570B1002A6877?opendocument).

While seasonal adjustment is able to remove the effect of events which occur at the same time in the survey every year, there are some events, like holidays, which are not always at the same time in the survey cycle or which are not at the same time across Australia. The effects of these types of events on Labour Force Survey estimates cannot in all cases be removed, because the pattern of their effects cannot be determined. However, two events for which adjustment is made in the seasonally adjusted series are the January interview start date and the timing of Easter.

While seasonal factors for the complete time series are estimated each month, they are reviewed annually at a more detailed level to take into account each additional year's original data. This annual review does not normally result in significant changes to published estimates.

The smoothing of seasonally adjusted series to produce 'trend' series reduces the impact of the irregular component of the seasonally adjusted series. These trend estimates are derived by applying a 13-term Henderson-weighted moving average to all months except the last six. The last six monthly trend estimates are obtained by applying surrogates of the Henderson average to the seasonally adjusted series. Trend estimates are used to analyse the underlying behaviour of a series over time.

While this smoothing technique enables estimates to be produced for the latest month, it does result in revisions in addition to those caused by the revision of seasonally adjusted estimates. Generally, revisions due to the use of surrogates of the Henderson average become smaller, and after three months have a negligible impact on the series.

For further information, see [A Guide to Interpreting Time Series - Monitoring Trends](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1349.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1349.0>).

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## Survey output

### Release strategy and frequency

Statistics from the monthly Labour Force Survey are released in two stages.

- The initial release is [Labour Force, Australia \(/statistics/labour/employment-and-unemployment/labour-force-australia/latest-release\)](/statistics/labour/employment-and-unemployment/labour-force-australia/latest-release), which includes headline estimates of employment, unemployment, underemployment, participation and hours worked for Australia, and the states and territories. This is usually published 39 days after the beginning of interviews for that month, which is the third Thursday of the month following the reference month (e.g. estimates for March are published on the third Thursday in April). The exception is December, where estimates are published 46 days after.
- The second release is [Labour Force, Australia, Detailed \(/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release\)](/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release), which includes more detailed monthly and quarterly data. The quarterly detailed data was previously published separately, in Labour Force, Australia, Detailed, Quarterly. The second release occurs 7 days after the first release (i.e. the fourth Thursday of the month).

Detailed longitudinal LFS microdata are also available in [Microdata: Longitudinal Labour Force, Australia \(/statistics/microdata-tablebuilder/available-microdata-tablebuilder/\)](/statistics/microdata-tablebuilder/available-microdata-tablebuilder/)

[longitudinal-labour-force-australia](#)) accessed via the ABS DataLab. This longitudinal file contains data from each monthly Labour Force Survey, along with data collected from labour supplementary surveys and multipurpose household surveys from October 1982 onwards. It includes a range of data to enable users to better understand the dynamics of the labour market and transitions between employment, unemployment and not in the labour force, by enabling analysis of how the labour force status and other characteristics of respondents changes for each of the 8 months they are in the LFS.

In addition:

- Estimates of the labour force status and other characteristics of families, and family members, are also available from the LFS - these are published in [Labour Force Status of Families \(/statistics/labour/employment-and-unemployment/labour-force-status-families/latest-release\)](#).
- Historical LFS estimates can be found in [Labour Force Historical Timeseries, Australia \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/E8F82E718DA28CD1CA257871001C2B39?OpenDocument\)](#).
- Labour force estimates for Aboriginal and Torres Strait Islander Australians are available from the [National Aboriginal and Torres Strait Islander Social Survey \(https://www.abs.gov.au/ausstats/abs@.nsf/PrimaryMainFeatures/4714.0?OpenDocument\)](#).

## Survey content

The LFS includes monthly information on:

- Labour force status - Employed, Unemployed, Not in the labour force;
- For people in the labour force - Unemployment rate, Underemployment rate, Participation rate, flows into and out of employment (Gross flows);
- For employed people - Status in employment, full-time or part-time status, hours actually worked, hours usually worked, total monthly hours worked, duration of employment, expectations of future employment, underemployment, reason for working fewer hours than usual in the reference week;
- For unemployed people - Whether looked for full-time and/or part-time work, duration of job search, and whether active steps taken to find work;
- For people not in the labour force - Reason not in the labour force, whether looking for work;
- Socio-demographic information - Sex, age, social marital status, relationship in household, family type, participation in school and tertiary education, highest year of school completed, level of highest educational attainment, birthplace and year of arrival in Australia; and
- Geography/Region (of usual residence) - State or Territory, Capital City / Balance of State, and Labour Force Regions (Statistical Area Level 4 (SA4)). See [Advice on reporting regional labour force data \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/\)](#)

[Previous products/6291.055.001>Main%20Features4Jan%202018?  
opendocument&tabname=Summary&prodno=6291.055.001&issue=Jan%202018&num=&view=\\_](https://www.abs.gov.au/ausstats/abs@.nsf/productsbyCatalogue/F0C856CB06E04EF8CA25768100129C13?OpenDocument&tabname=Summary&prodno=6291.055.001&issue=Jan%202018&num=&view=_)

Quarterly information is available on:

- For people in the labour force - Hours-based measures of underutilisation, and retrenchments in the previous quarter;
- For employed people - occupation, industry, sector (public/private), and whether casual (i.e. employee without paid leave entitlements);
- For unemployed people - Whether looked for full-time and/or part-time work, reason for ceasing last job, and industry and occupation of last job;
- For people not in the labour force - Retrenchments in the previous quarter.

Seasonally adjusted and trend data are available for selected series, including labour force status, unemployment, participation rate, industry, and long term unemployed.

For information on the concepts and data items available from the LFS, see [Labour Force Survey Standard Products and Data Item Guide \(<https://www.abs.gov.au/AUSSTATS/abs@.nsf/productsbyCatalogue/F0C856CB06E04EF8CA25768100129C13?OpenDocument>\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/productsbyCatalogue/F0C856CB06E04EF8CA25768100129C13?OpenDocument).

## Reliability of estimates

Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey.

Sampling error occurs because a sample, rather than the entire population, is surveyed. The most commonly used measure of the likely difference resulting from not including all households in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Table 1 shows the movements in seasonally adjusted series, and the corresponding confidence intervals for these movements.

**Table 1: Confidence intervals for seasonally adjusted movements between September 2022 and October 2022**

	Monthly change	95% Confidence interval
Total Employment	32,200	-30,800 to 95,200
Total Unemployment	-20,600	-50,800 to 9,600
Unemployment rate	-0.1 pts	-0.3 pts to 0.1 pts
Participation rate	0.0 pts	-0.4 pts to 0.4 pts

Standard errors on level estimates for October 2022 and movements between September 2022 and October 2022

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[38.64 KB]

25% Relative Standard Error (RSE) cut-offs for States and Territories, Greater Capital City Statistical Areas and SA4s

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## How to interpret standard errors on levels and movements

### Level estimates

The following example illustrates how to use the standard error to interpret a level estimate. To illustrate, let us say the published level estimate for employed persons aged 15-19 years is 700,000 and the associated standard error is 9,000. The standard error is then used to interpret the level estimate of 700,000. For instance, the standard error of 9,000 indicates that:

- There are approximately two chances in three that the real value falls within the range 691,000 to 709,000 ( $700,000 + or - 9,000$ ).
- There are approximately nineteen chances in twenty that the real value falls within the range 682,000 to 718,000 ( $700,000 + or - 18,000$ ).

The real value in this case is the result we would obtain if we could enumerate the total population.

### Movement estimates

The following example illustrates how to use the standard error to understand the reliability of a movement estimate. Let us say that one month the published level estimate for females employed part-time is 1,890,000; the next month the published level estimate is 1,900,000 and the associated standard error for the movement estimate is 11,900. The standard error

is then used to interpret the published movement estimate of 10,000. For instance, the standard error of 11,900 indicates that:

- There are approximately two chances in three that the real movement between the two months falls within the range - 1,900 to 21,900 ( $10,000 + or - 11,900$ ).
  - There are approximately nineteen chances in twenty that the real movement falls within the range - 13,800 to 33,800 ( $10,000 + or - 23,800$ ).
- 

The standard errors for all labour force estimates and movements can be calculated using the following spreadsheet.

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## Estimating standard errors of Labour Force data

 [Download XLSX](#)

[530.96 KB]

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## Standards and classifications

The labour force characteristics of the population are measured and described through a group of variables. The core labour force variables are:

- Labour force status
- Status in employment
- Hours worked
- Full-time/part-time status
- Duration of job search

The standards for these variables, including the concept(s), definition(s), classification, coding structure, questionnaire modules and output, are in [Standards for Labour Force Statistics \(/statistics/standards/standards-labour-force-statistics/latest-release\)](#).

Other standards and classifications used in the LFS are outlined in [Labour Statistics: Concepts, Sources and Methods. \(/statistics/detailed-methodology-information/concepts-sources-methods/labour-statistics-concepts-sources-and-methods/2021\)](#).

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## Glossary

[Show all](#)

**Actively looked for work**

Actively looked for work includes:

- written, telephoned or applied to an employer for work;
- had an interview with an employer for work;
- answered an advertisement for a job;
- checked or registered with an employment agency;
- taken steps to purchase or start your own business;
- advertised or tendered for work; and
- contacted friends or relatives in order to obtain work.

## Actual hours of work

Actual hours of work refers to a specified reference period (e.g. a week) and includes:

- hours actually worked during normal periods of work;
- time spent in addition to hours worked during normal periods of work (including overtime);
- time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
- time spent at the place of work waiting or standing by due to machinery or process breakdown, accident, lack of supplies, power or internet access, etc;
- time corresponding to short rest periods (resting time) including tea and coffee breaks or prayer breaks;
- travel time connected to work (excluding commuting time); and
- training and skills enhancement related to the job or employer.

Excluded are:

- hours paid for but not worked, such as paid annual leave, public holidays or paid sick leave;
- meal breaks (e.g. lunch breaks);
- paid and unpaid time 'on call';
- time spent on travel to and from work when no productive activity for the job is performed (e.g. commuting time); and
- time off during working hours to attend outside educational activities, even if it is authorised, e.g. those not connected to the job or employer.

For multiple job holders the LFS collects a separate measure of actual hours worked in main job and in all jobs.

## **Attending full time education**

People aged 15-24 years enrolled at secondary or high school or enrolled as a full time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.

## **Attending school**

People aged 15-19 years enrolled at secondary or high school in the reference week.

## **Attending tertiary educational institution full time**

People aged 15-24 years enrolled full time at a TAFE college, university, or other educational institution in the reference week, except those people aged 15-19 years who were still attending school.

## **Civilian population aged 15 years and over**

All usual residents of Australia aged 15 years and over except:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants) stationed in Australia.

## **Composite Estimation**

The estimation methodology used in the Labour Force Survey. Composite Estimation uses sample responses from nearby months as well as from the reference month to derive estimates for the reference month. This approach achieves gains in efficiency by exploiting the high similarity between the responses provided by the same respondent in previous months. For details see [Information Paper: Forthcoming Changes to Labour Force Statistics, 2007. \(<https://www.abs.gov.au/AUSSSTATS/abs@.nsf/Lookup/6292.0Main+Features12007>\)](https://www.abs.gov.au/AUSSSTATS/abs@.nsf/Lookup/6292.0Main+Features12007)

## **Employed**

All people aged 15 years and over who met one of the following criteria during the reference week:

- Worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (employees and owner managers of incorporated or unincorporated enterprises).
- Worked for one hour or more without pay in a family business or on a farm (contributing family workers).

- Were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to return to their job.
- Were owner managers who had a job, business or farm, but were not at work.

## **Employed full-time**

Includes employed people who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

## **Employed part-time**

Includes employed people who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.

## **Employment to population ratio**

For any group, the number of employed people expressed as a percentage of the civilian population in the same group.

## **Estimated resident population (ERP)**

Estimated resident population (ERP) is Australia's official measure of the population of Australia and is based on the concept of usual residence. It refers to all people, regardless of nationality, citizenship or legal status, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for fewer than 12 months. It excludes overseas visitors who are in Australia for fewer than 12 months. Refer to [Australian Demographic Statistics \(<https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0).

## **Flow estimates**

Flow estimates are a measure of activity over a given period. For example, monthly hours worked in all jobs is a measure of the total number of hours worked in a calendar month.

## **Gross flows**

The matching of respondents who report in consecutive months enables analysis of the

transition of individuals between the different labour force status classifications, referred to as the matched sample. The transition counts between the different labour force status classifications from one point in time to the next are commonly referred to as gross flows.

## **Labour force**

For any group, people who were employed or unemployed, as defined.

## **Labour force status**

A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

## **Long-term unemployed**

The number of people unemployed for 52 weeks or over.

## **Long-term unemployment ratio**

The number of long-term unemployed people, expressed as a percentage of the total unemployed population.

## **Market sector**

The market sector is an industry grouping comprising the following industries: Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Transport, postal and warehousing; Information media and telecommunications; Finance and insurance services; Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; Arts and recreation services; and Other services. Refer to [Australian System of National Accounts: Concepts, Sources and Methods \(/statistics/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21\)](/statistics/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21).

## **Non-market Sector**

The non-market sector is an industry grouping comprising the following industries: Education and training; Public administration & safety; and Health care and social assistance. Refer to [Australian System of National Accounts: Concepts, Sources and Methods \(/statistics/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21\)](/statistics/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21).

## **Monthly hours worked in all jobs**

Monthly hours worked in all jobs measures the total number of actual hours worked by employed people in a calendar month. It differs from the actual hours worked estimates (and the usual hours worked estimates) since these refer only to the hours worked in the reference week.

Actual and usual hours worked cannot be aggregated across time to produce either quarterly or annual estimates as they relate to only a single week in the month. In contrast, monthly hours worked in all jobs estimates are a true monthly measure, and may be aggregated across time to produce both quarterly and annual estimates.

### **Not in labour force**

People who were not in the categories employed or unemployed, as defined. They include people who undertook unpaid household duties or other voluntary work only, were retired, voluntarily inactive and those permanently unable to work.

### **Participation rate**

For any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

### **Response rate**

The number of fully responding dwellings expressed as a percentage of the total number of dwellings excluding sample loss. Examples of sample loss include: dwellings where all people are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.

### **Seasonally adjusted series**

A time series of estimates with the estimated effects of normal seasonal variation removed.

### **Stock estimates**

Stock estimates are a measure of certain attributes at a point in time and can be thought of as stocktakes. For example, the total number of employed people is an account of the number of people who were considered employed in the Labour Force Survey reference week.

### **Trend series**

A smoothed seasonally adjusted series of estimates.

### **Underemployment rate**

The number of underemployed workers expressed as a percentage of the labour force.

## **Underemployment ratio**

The number of underemployed workers expressed as a percentage of total employed people.

## **Underemployed workers**

Employed people aged 15 years and over who want, and are available for, more hours of work than they currently have. They comprise:

- people employed part time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; or
- people employed full time who worked part time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full time in the reference week and would have been available to do so.

## **Underutilisation rate**

The sum of the number of people unemployed and the number of people in underemployment, expressed as a proportion of the labour force.

## **Unemployed**

People aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full time or part time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

## **Unemployed looked for full time work**

Unemployed people who:

- actively looked for full time; or
- were waiting to start a new full time job.

## **Unemployed looked for only part time work**

Unemployed people who:

- actively looked for part time work only; or
- were waiting to start a new part time job.

## **Unemployment rate**

For any group, the number of unemployed people expressed as a percentage of the labour force in the same group.

## Usual hours of work

Usual hours of work refers to a typical period rather than the hours worked in a specified reference period. The concept of usual hours applies both to people at work and to people temporarily absent from work, and is defined as the hours worked during a typical week or day. Actual hours worked (for a specific reference period) may differ from usual hours worked due to illness, vacation, strike, overtime work, a change of job, or similar reasons.

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## History of changes

The ABS has been conducting the Labour Force Survey since 1960, initially as a quarterly survey. In February 1978, the frequency of the survey was changed from quarterly to monthly. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the LFS have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates.

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## Show all changes

### September 2022

- All seasonally adjusted series changed back to concurrent adjustment.
- Trend estimates reinstated.

### July 2022

Updated the Labour Force Survey (LFS) questionnaire with the following changes:

- Replaced gender specific terms (eg. he/she/his/her) with gender neutral terms (eg. they/ them) throughout the entire LFS questionnaire
- Combined the Maternity/Paternity response categories into one response category in LFSQ50, LFSQ63 and LFSQ68. Prior to July 2022, Maternity and Paternity were two separate response categories for these questions.

The retired [LFS questionnaire \(July 2014 – June 2022\)](#) ([/methodologies/labour-force-](#)

[australia-methodology/jun-2022#data-download](#)) is accessible via the methodology page in the June 2022 release.

## February 2022

- Resumption of face-to-face interviews.

## April 2020

- Suspension of trend estimates and change to the use of forward factors for seasonally adjusted estimates as a result of COVID-19.
- Implementation of more frequent revisions to preliminary Net Overseas Migration estimates. Net Overseas Migration estimates are a component of population estimates, from which Labour Force benchmarks are produced. For more information, please refer to [Net Overseas Migration revisions in Labour Force benchmarks during COVID-19 \(\)](#).
- Suspension of face-to-face interviews due to COVID-19.

## July 2018 to February 2019

- A new sample was phased in, with each incoming rotation group being selected from the ABS Address Register.
- Updated sampling fractions phased in with the introduction of the ABS Address Register selected sample. The state sampling fraction method applies a predefined skip interval for each state which defines the probability of an address within each respective state being selected for the survey. Each incoming rotation group that was phased in had this new state skip applied.

## December 2017

- Rebenchmarked labour force estimates for 2011-2017 released, based on preliminary 2016 Census-based population estimates.

## July 2016

- Introduction of 12 month rolling averages for regional labour force estimates, and accompanying advice.

## December 2015

- Minor wording change to the job search activity undertaken question, with reference to the defunct 'Job Services Australia' program removed. The wording of "Job Services Australia provider or any other employment agency" was changed to "employment agency". There was no statistical impact from this change.

## August 2015

- Commencement of quarterly population benchmark revisions, coinciding with the

availability of updated benchmarks immediately prior to each quarter month (i.e. February, May, August and November). Labour Force series for the previous 19 months revised to reflect the latest available preliminary and final estimates of Estimated Resident Population. This process ensures the Labour Force series promptly reflects any change in population trends and minimises the size of revisions that can occur when the series are rebenchmarked following each Census. The quarterly revisions will generally not be significant. For further information refer to [Rebenchmarking Labour Force Estimates](https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/6202.0Main%20Features4Feb%202015?opendocument&tabname=Summary&prodno=6202.0&issue=Feb%202015&num=&view=) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/6202.0Main%20Features4Feb%202015?opendocument&tabname=Summary&prodno=6202.0&issue=Feb%202015&num=&view=>) in the February 2015 of Labour Force, Australia.

## March 2015

- Further refinement to the changes to the labour force seasonal adjustment methodology to account for the change in seasonal effects resulting from changes to the supplementary survey program. These changes were applied to the historical period prior to December 2013.

## February 2015

- Labour force data for the period July 2011 to January 2015 revised to reflect updated population benchmarks.

## October 2014

- Changes made to the labour force seasonal adjustment methodology to account for the change in seasonal effects resulting from changes to the supplementary survey program, which were observed during the July-September 2014 period. These changes were applied to the period from December 2013.

## July 2014

- Survey questionnaire was redesigned and definitional changes were made to active job search steps and duration of job search.

## April 2014

- All participants are now offered the option of self-completing the survey online.

## February 2014

- Refined procedures for respondent follow-up introduced, resulting in expected response rates ranging between 93 to 95% each month (previously 95 to 97% each month). These procedures were introduced as part of a broader program of ABS work to enhance the cost effectiveness of its response follow-up strategies, while maintaining the high quality of its statistics.

## January 2014

- Estimates compiled using population benchmarks aligned with ERP based on the 2011 Census. Data for the period June 1991 to December 2013 were revised to reflect the rebased population estimates. For more information, refer to the article 'Rebenchmarking Labour Force Estimates to the 2011 Census of Population and Housing'.
- Regional estimates produced at the Statistical Area Level 4 (SA4) level of the Australian Statistical Geography Standard (ASGS), with data released on a consistent ASGS basis back to October 1998. Previous estimates were based on the 2006 Australian Standard Geographical Classification (ASGC). For more information on regional estimates, see Information Paper: Regional Labour Force Statistics, 2014.
- Composite estimation was applied to all estimates from July 1991 as part of the 2011 Census rebenchmarking.

### **September 2013 to March 2014**

- 100% of each new rotation group now offered the option of self-completing their survey online.

### **May 2013 to August 2013**

- 50% of each new rotation group now offered the option of self-completing their survey online.

### **May 2013**

- Sample redesign phased in from May to August 2013 based on the 2011 Census of Population and Housing. For the key LFS estimates, the 2011 sample design generally maintains standard errors at levels targeted under the 2006 sample design. Generally the previous design achieved lower levels of sampling error than the sample was designed for, allowing for a reduction in the 2011 sample size to match the 2006 targets.

### **December 2012 to April 2013**

- Trial of online self-completion was conducted. Respondents in a single rotation group (one-eighth of the sample) were offered the option of self-completing their survey online rather than via a face-to-face or telephone interview.

### **November 2012**

- Labour force estimates from July 2008 to October 2012 revised to align the labour force population benchmarks with the latest available information on population growth.

### **February 2012**

- Revisions to employment by industry estimates for the period November 1984 to May 1994 were made to reflect improvements made to the concordance between the formerly used Australian Standard Industrial Classification (ASIC 1983) and the current Australian and New Zealand Industry Classification (ANZSIC 2006).

- A break in series was also introduced for duration of unemployment estimates to separate the synthetic estimates produced for the period April 1986 to March 2001 from the estimates directly measured from April 2001 onwards.

## **July 2011**

- Looking on the internet was added to looking in newspapers as a passive job search step, and references to Centrelink touch screens were removed from job search steps. Job search step 'check factory noticeboards' was changed to 'checked noticeboards'.

## **October 2010**

- The derivation of the forecasted net overseas migration component of LFS population benchmarks updated to use assumptions that take into account a range of available supplementary data sources and relevant information to forecast population changes in the short-term. These were previously based on the assumption that the previous year's net overseas migration (for the required quarter) movements were representative of the current year's movement.

## **July 2010**

- Labour force estimates compiled using updated population benchmarks that incorporate revisions made to Net Overseas Migration estimates, with data for the period July 2006 to June 2010 revised to reflect the latest population estimates.

## **July 2008 to December 2009**

- Due to savings initiatives for the 2008-09 financial year, there was a 24% reduction in the sample sizes for the period July 2008 to August 2009, relative to the June 2008 sample size. The sample was progressively reinstated from September 2009 to December 2009, with December 2009 estimates being the first produced under the fully reinstated sample.

## **February 2009**

- Estimates compiled using population benchmarks based on results from the 2006 Census, with data for the period June 2001 to January 2009 revised to reflect the latest population estimates.
- Regional estimates now classified to the Labour Force Statistical Regions based on the 2006 Australian Standard Geographical Classification. Previous estimates were based on the 2001 Australian Standard Geographical Classification.

## **September 2008**

- Interviewing procedures changed to commence on a Sunday between the 5th and the 11th of the month, and the reference week changed to be the prior Sunday to Saturday – interviews previously commenced on the Monday between the 6th and 12th of each month (with exception at the end and beginning of each calendar year). The new procedures were introduced to increase the likelihood of contact with households,

thereby increasing the efficiency and accuracy of the LFS estimates.

- An improved method for calculating families estimates was introduced. Detailed information on the improved method is provided in Information Paper: Improvements to Family Estimates from the Labour Force Survey.

## November 2007

- Sample redesign phased in from November 2007 to June 2008, based on the 2006 Census of Population and Housing. Overall fraction is 0.32%. Sampling efficiencies related to the introduction of composite estimates enabled an 11% reduction in the sample, with only minor reductions in data quality relative to the previous design. For more information on the sample redesign, see Information Paper: Labour Force Survey Sample Design.

## May 2007

- Composite estimation method introduced. Unit record data from April 2001 to April 2007 was revised based on this estimation method. No change was identified in the trend breaks in the unemployed persons and unemployment rate series which arose with the introduction of a redesigned survey form in April 2001.

## August 2006

- Industry coded using both the new classification Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006, and the previous classification Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993.
- Occupation coded using both the new classification Australian and New Zealand Standard Classification of Occupations (ANZSCO), and the previous classification Australian Standard Classification of Occupations (ASCO) Second Edition.
- Dual-coding continued until November 2008.

## May 2005

- Auto coding (AC) introduced for industry and occupation data. Industry and occupation codes are applied automatically by a computer matching the survey responses to an industry or occupation index. Where the AC system is unable to allocate a valid code to a record, the record is then passed on to the Computer Assisted Coding (CAC) system for coding. Application of adjustment factors to account for the new coding method was not necessary.

## February 2004

- Estimates and population benchmarks based on 2001 Census data. All estimates for the period January 1999 to January 2004 revised.
- The definition of unemployed persons was changed to include 'future starters' (persons who had not actively looked for work because they were waiting to start a new job within four weeks from the end of the survey reference week, and could have started in the

reference week if the job had been available then). These persons had previously been classified as not in the labour force.

- Historical series from April 2001 were revised to the new basis as part of the benchmark revision. Unit record data revised for the period September 1997 to March 2001, to account for the definitional changes introduced in April 2001.
- Industry and occupation series revised back to August 2000 to include 'not further defined' categories, in cases where there is not enough detail provided to allow the ABS to code persons to the lowest level of these classifications. From the introduction of computer assisted coding in 2000 until November 2003, these responses were proportionally distributed to the most detailed level of the classification.

### **December 2003**

- Concurrent monthly and quarterly analysis of seasonal adjustment factors introduced in place of annual forward factor analysis and revision.

### **October 2003 to August 2004**

- Computer assisted interviewing progressively implemented in place of pen and paper questionnaire.

### **February 2003**

- Additional question on underemployed workers and their availability to work extra hours within four weeks of the survey date included.

### **November 2002**

- Sample redesign phased in from November 2002 to June 2003 based on the 2001 Census. Overall sampling fraction is 0.45%. Sample selection stage in less populated areas based on the ASGC Remoteness structure instead of population density. In hotels and motels, only those units occupied by usual residents enumerated.
- Sample frame for Indigenous communities introduced as an aid to enumeration in the LFS, and household surveys generally.
- 2001 ASGC based Labour Force Statistical Regions classification introduced for the new design, replacing the 1996 ASGC based Labour Force Statistical Regions classification.

### **April 2001**

- Redesigned questionnaire containing additional data items and some minor definitional changes introduced. New or extended data was added on: job tenure; underemployment; hours worked; duration of unemployment; and marginal attachment to the labour force.
- Labour force series for the period April 1986 to March 2001 were revised to reduce the impact of definitional changes and the redesigned questionnaire on the series.
- The definition of unemployed persons was changed to include all persons who were waiting to start work and were available to start in the reference week. This change was

implemented into the data from February 2004, when historical unit record data were revised from April 2001 to January 2004. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series.

## **February 2000**

- Computer assisted coding introduced for industry and occupation replaced manual coding and reference to the ABS Business Register, resulting in a break in series.
- Derivation of status in employment changed to remove reference to the ABS Business Register for limited liability information, resulting in a break in series.

## **February 1999**

- Estimates and population benchmarks based on 1996 Census data. All estimates for the period January 1995 onwards were revised.

## **September 1997 to April 1998**

- Sample redesign phased in based on the 1996 Census. Overall sampling fraction is 0.5%.
- The new 1996 ASGC based Labour Force Statistical Regions classification.

## **August 1996**

- Telephone interviewing was introduced into the survey in August 1996. Implementation was phased in for each new sample group from August 1996 to February 1997. During the period of implementation, the new method produced different estimates than would have been obtained under the old methodology. The effect dissipated over the final months of implementation and was no longer discernible from February 1997. The estimates for February 1997 and onwards are directly comparable to estimates for periods prior to August 1996.
- Occupation coded using Australian Standard Classification of Occupations (ASCO) Second Edition, replacing the first edition of ASCO.

## **August 1995**

- Seasonally adjusted and trend estimates of long-term unemployment published for the first time.

## **August 1994**

- Australian and New Zealand Standard Industrial Classification (ANZSIC) introduced in place of ASIC 1983 edition. Revised historical estimates of employment published by ANZSIC group from August 1984 onwards.

## **March 1994**

- 'Relationship in household' and 'Family type' classifications aligned with ABS standards, resulting in some breaks in comparability with previous Family status and Family type classifications.

## **February 1994**

- Estimates and population benchmarks based on 1991 Census data. All estimates for the period January 1989 onwards revised.
- Status in employment class titles amended to reflect the International Conference of Labour Statisticians (ICLS) and International Conference of Status in Employment (ICSE) 1993.

## **July 1993**

- Jervis Bay Territory excluded from the scope of the survey. Previously, it was included in estimates for the Australian Capital Territory.

## **February 1993**

- Introduction of seasonally adjusted and trend series for Employed persons by Industry of main job (at Industry Division level).

## **September 1992 to December 1992**

- Sample redesign based on the 1991 Census. New sample phased in. Overall sampling fraction is 0.5%.
- The updated 1991 ASGC based Labour Force Statistical Regions classification.

## **November 1989**

- Changes were made to the Questionnaire to accommodate Optical Mark Recognition (no changes to questions).

## **July 1989**

- 'Family type' class 'Other families' split into 'One parent families' and 'Other families'.

## **February 1989**

- Estimates and population benchmarks based on 1986 Census data. All estimates for the period January 1984 onwards revised.

## **September 1987 to December 1987**

- Sample redesign based on the 1986 Census. New sample phased in. Overall sample fraction is 0.6%.
- A new 1986 ASGC based Labour Force Statistical Regions classification was used.

## **August 1986**

- Australian Standard Classification of Occupations (ASCO) introduced for classification of occupation of persons, replacing CCLO 1981.

## **April 1986**

- Definition of employed persons was changed to include persons who worked without pay between 1 and 14 hours per week in a family business or on a farm (i.e. contributing family workers).
- Dependents definition, and the Family status item 'full-time student', includes full-time students aged 15-24 (previously aged 15-20).
- Weighting of families estimates changed, from proxy (household head) weight to harmonic mean of weights of all responding members of the family.
- Additional unemployment variable introduced: reason for ceasing last job (job losers/job leavers). No change in definition or break in series.

### **November 1984**

- Industry classified according to ASIC 1983 edition, replacing ASIC 1978 edition.

### **February 1984**

- Estimates and population benchmarks based on 1981 Census data. Estimates for the period October 1982 were revised to full state of usual residence basis on 1981 Census benchmarks. Estimates from February 1978 to September 1982 revised to 1981 benchmarks, but remain on the previous state of enumeration/place of usual residence basis.

### **July 1983**

- Scope for 'Family status' (and hence families estimates) restricted to usual residents of private dwellings, where all usual residents were within the survey scope and in on coverage at survey date. 'Family status' and families estimates thus exclude all persons in non-private dwellings, persons visiting private dwellings, or households where any member was out of scope or absent for six weeks or more at survey.

### **October 1982**

- Full sample changed to sample redesign based on 1981 Census, including modifications to enable production of regional estimates within states, and estimates by State of usual residence.
- Additional questions to identify usual residence and family relationship, with marital status questions reworded and de facto relationships coded as married.
- Additional identification of persons usually working less than 35 hours per week.
- 1981 Australian Standard Geographic Classification (ASGC) adopted, based Labour Force Statistical Regions classification.

### **February 1982**

- Seasonally adjusted series introduced for monthly estimates series from February 1978 onwards. Annual seasonal factor re-analysis and series revision carried out at February each year from this survey.

## **August 1981**

- Occupation classified according to CCLO November 1980 edition, replacing CCLO 1976 version.

## **November 1979**

- Industry classified according to ASIC 1978 edition, replacing ASIC 1969 edition.

## **February 1978**

- Monthly national survey commenced.
- The LFS adopted as the official national measure of unemployment.
- Interviews conducted over 2 one-week periods, previously 4 one-week periods.
- Estimates and benchmarks based on 1976 Census data, with series from August 1971 onwards revised to 1976-based benchmarks.
- With the full implementation of the 1976 Census based sample design, 1/8 monthly sample rotation was introduced for non-private dwellings: whole sample now subject to 1/8 rotation.
- New questionnaire introduced with substantial redesign of question wording, structure and sequence to improve data quality. Changes included: separate questions on looking for full-time/looking for part-time job; active search more clearly identified; and availability and future starters better identified. Some impact on employed, main impact on unemployed seeking part-time work.
- New definitions of employment and unemployment adopted. Definition of unemployed persons looking for first job was revised to "unemployed persons who had never worked full-time for two weeks or more". Prior to November 1977, the definition was "unemployed persons who had never had a job". August 1966 to November 1977 series revised to comparable basis, as a result of new questionnaire introduction.
- Seasonally adjusted series continued on a quarterly basis, pending accumulation of sufficient results to permit adjustment of monthly series.

## **November 1977**

- In preparation for the start of monthly surveys in February 1978 (with a new questionnaire, revised 1976 Census based sample and 1976 based population benchmarks), two surveys were conducted simultaneously in November 1977. Of these two surveys, one provided the published November 1977 results, based on the old questionnaire, the old 1971-based sample design (reduced to 0.5%), and the 1971-based population benchmarks. The other survey, based on the new questionnaire and the new, 1976-based sample, was used to prepare adjustment factors and revisions to historical estimates, so that comparable historical series could be published with the first release of February 1978 survey results.
- Occupation classified according to CCLO 1976 edition, replacing CCLO 1971 version.
- Industry classified according to the ASIC 1969 edition and Integrated Business Register

employer index.

## May 1976

- Following February 1975 question changes, definition of unemployment revised to incorporate active job search in the last four weeks (previously in the last week), and availability to start work in the reference week (with separate provision for temporary illness and future starters). Series revised from February 1975.

## May 1975

- Estimates and population benchmarks based on 1971 Census benchmarks. Revisions to August 1966 - November 1972 principal series, and from February 1973 onwards, full revision of all estimates and series (including annual seasonal factor re-analysis).

## February 1975

- Estimates excluded Darwin (due to effects of cyclone Tracy).
- Respondents asked if they looked for work in the last four weeks (previously looked for work last week).
- Availability question added.
- Unemployment series and definition continued on old basis, with separate publication of new question results until February 1976.
- Unemployment definition and series based on new questions adopted from May 1976.

## November 1974

- First collection of relationship in household data. Relationship in household (i.e. families) estimates excluded persons and institutions.
- 'Family status' imputed for persons in private households where any member was out of scope, absent for six weeks or more at survey, or who were a visitor. Families estimates based on proxy (household head) weight.
- Labour Force Status and Other Characteristics of Families first published as an irregular. See also Labour Force, Australia as various issues were released between May 1977 and July 1980.
- The first release of preliminary unemployment estimates in the quarterly publication Unemployment, Preliminary Estimates (Ref. no. 6.31), was issued in December 1974.

## November 1973

- The seasonal adjustment of estimates for unemployed males, females and persons by separate adjustment of unemployed series by sex (males, females) by age (15-19 years, 20 years and over) was undertaken. Previously, estimates were obtained by a (single) direct adjustment to the total estimate. Seasonally adjusted unemployment estimates for February 1964 to August 1973 were revised.

- For final publication of the February 1964 to May 1966 seasonally adjusted series (using 1966 as the base year and excluding Indigenous population) see *The Labour Force*, 1977 (cat. no. 6204.0).

## **May 1972**

- Sample redesign based on 1971 Census, phased in from May 1972 to November 1972.
- Introduction of different sampling fractions across states and territories, with overall fraction reduced from 1% to 0.67%.

## **February 1972**

- Questions on country of birth and year of arrival in Australia added.

## **November 1971**

- Occupation classified according to CCLO 1971 edition, replacing CCLO 1966 version.

## **August 1971**

- Classification of trainee teachers changed from 'employed' to 'not in the labour force', to conform to 1971 Census practice and international recommendations regarding activity principles.
- For the period August 1971 to August 1972, industry responses coded to both CCLI and Australian Standard Industrial Classification (ASIC), leading to full adoption of industry classified according to 1971 Census ASIC (August 1969 Preliminary edition) and 1971 Census Industry/Destination zone employer index from November 1972, and conversion of August 1966-May 1971 industry series to ASIC.

## **May 1970**

- First release of national seasonally adjusted series.

## **August 1967**

- Additional questions introduced to better identify employees of incorporated enterprises (some of whom had previously been incorrectly classified as employers or self-employed).

## **August 1966**

- Scope of survey population reduced to persons aged 15 years and over, due to changes in the school leaving age and to conform to definitions used in the 1966 Census.
- Indigenous population was included.
- Additional questions were introduced on steps taken to find a job.
- The grouping of hours worked changed to reflect recommendations from ICLS 1961. Occupation classified according to Classification and Classified List of Occupations (CCLO) 1966 Census edition.

- Industry classified according to Classification and Classified List of Industries (CCLI) 1966 Census edition and 1966 Group Employer Place of Work index.

### **February 1964**

- Quarterly national survey commenced. Capital city series continued in absence of release of national series.
- Capital city estimates and population benchmarks based on 1961 Census data.

### **November 1963**

- First release of State Capital City series, November 1960 – November 1963. Employment and Unemployment, October 1963 (Ref. no. 6.4 – only available in hardcopy) issued February 1964.
- Estimates and population benchmarks based on 1961 Census of Population and Housing data.
- Labour force definitions based on the International Conference of Labour Statisticians (ICLS) 1954.

### **November 1960**

- Quarterly survey commenced. State Capital Cities only, including persons aged 14 years and over, but excluding the Aboriginal and Torres Strait Islander population.
- Sample of 1% of households Australia wide, with 1/8 rotation in private households and 1/4 rotation in other households.